GREIF
VELOX

SMARTER
PACKAGING.
SMARTER
BUSINESS.

LIQUID FILLING SYSTEMS

RALF DREWS,
CHAIRMAN OF THE
BOARD & CEO

DEAR CUSTOMERS, DEAR PARTNERS,

The efficient and reliable filling of liquids presents many individual challenges and demands, for example within the field of safety. Our engineers and our research and development department are constantly making sure that we precisely meet these special requirements for all production environments. But more than that: they design and implement solutions that generate a real and sustainable competitive edge, and bring fast cost benefits. Our goal is always to ensure high-performance production and provide measurable financial added value using our systems. We are very pleased that we have been able to achieve this goal with our customers all over the world for many decades.

We have provided you with this brochure to introduce you to our plant and installation systems, and also give you a whole host of insights and further inspiration.

With best wishes

RALF DREWS

A JOURNEY THROUGH TIME

The GREIF-VELOX story begins with one of the oldest start-ups in the world.
It took almost 1000 years for GREIFEN-Mühle to become GREIF-VELOX.
A journey full of innovation and experiences:

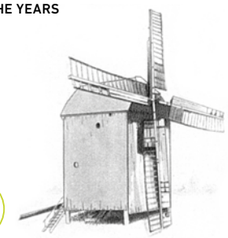
1100
FOUNDING OF THE GREIFEN-MÜHLE IN KLÜTZOW BY MONKS

1399
SALE OF THE MILL AND THE VILLAGE TO THE LOCAL PRIEST, V.D. ZINNE, TO BENEFIT A SPIRITUAL FOUNDATION

1409


GRADUAL TRANSFER OF OWNERSHIP OF THE MILL INTO THE PRIVATE HANDS OF THE V.D. ZINNE FAMILY

1734
JOHANN MAHLKUCH OPERATES THE MILL AND EXPANDS IT OVER THE YEARS



1852
CONSTRUCTION OF THE MILL ACCORDING TO THE INNOVATIVE "AMERICAN SYSTEM" TO PRODUCE VERY FINE, EXPENSIVE FLOUR

1865
CONVERSION AND TECHNICAL EXTENSION OF THE MILL TURBINES AND STEAM ENGINES

1891

THE MILL IS BURNED TO THE GROUND DUE TO AN OVERHEATED WOODEN SHAFT BEARING AND IS COMPLETELY REBUILT WITH NEW EQUIPMENT IMMEDIATELY AFTERWARDS.

1908

ERNST MAHLKUCH, OWNER OF THE MILL, PATENTS HIS FIRST CALIBRATABLE AUTOMATIC BAGGING SCALE, IN THE YEAR OF HIS EXAMINATION FOR THE MASTER'S CERTIFICATE

1914
WHEN THE WAR STARTS, THE MILL HAS TO SURRENDER 6 HORSES AND SEVERAL WORKERS. THE MILL ALSO PROFITABLY JOINS THE NEWLY FOUNDED REICHSGETREIDESTELLE (IMPERIAL BREADSTUFFS COMMISSION)

1920

MASSIVE EXPANSION OF THE MILL AND THE MILL WAREHOUSE, AND PURCHASE OF ELECTRIC VEHICLES

1921
NEW PATENT APPLICATIONS FOR AN AUTOMATIC BAG PACK SCALE AND A BAG LIFT

1934

COMPLETE RECONSTRUCTION OF THE MILL AS A RESULT OF A MAJOR FIRE IN 1933, WITH VARIOUS IMPROVEMENTS AND INNOVATIONS BY THE OWNER AND INVENTOR, ERNST MAHLKUCH

1938
THE GREIF-WERK IS FOUNDED AND BUILT IN KLÜTZOW, AFTER NUMEROUS PATENTS ARE FILED FOR WEIGHING AND BAGGING

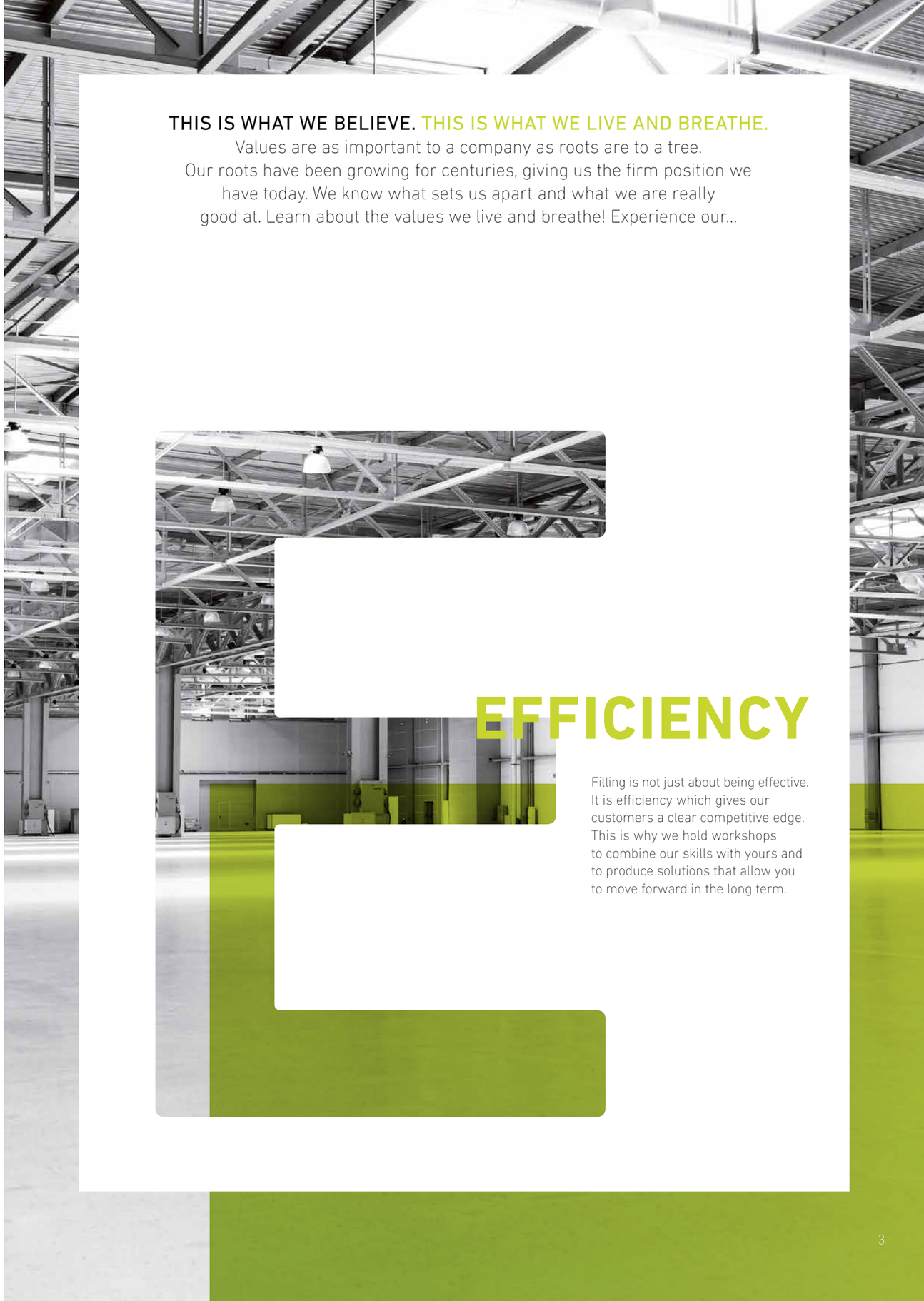
1941
THE GREIF-WERK WAS FOUNDED AND BUILT IN KLÜTZOW AFTER NUMEROUS PATENTS WERE FILED FOR WEIGHT AND BAGGING

1945
FOUNDING OF THE GREIF-WERK IN LÜBECK

1978
AFFILIATION WITH THE MÖLLERS GROUP

1997
RENAMING OF THE GREIF-WERK TO GREIF-VELOX

2012
GREIF-VELOX PRODUCES HIGH-QUALITY, INDIVIDUAL FULL-LINE SYSTEMS



THIS IS WHAT WE BELIEVE. THIS IS WHAT WE LIVE AND BREATHE.

Values are as important to a company as roots are to a tree.
Our roots have been growing for centuries, giving us the firm position we have today. We know what sets us apart and what we are really good at. Learn about the values we live and breathe! Experience our...

EFFICIENCY

Filling is not just about being effective. It is efficiency which gives our customers a clear competitive edge. This is why we hold workshops to combine our skills with yours and to produce solutions that allow you to move forward in the long term.

R

RELIABILITY

We know that machine downtime is expensive. This is why we can be depended upon to deliver our machines on time, offer a high level of quality and guarantee that our service is reliable, available and operational.

INNOVATION

Digitalisation and continuous further mechanical development have led to process optimisation and automation. Yet we do not see innovation as an end in itself. We always start by asking: how do our customers benefit? This is a philosophy that has proven successful over the last 1000 years.

GREIF-VELOX

TODAY IN NUMBERS

A great deal has happened over the last 1000 years.
You will find some interesting facts and figures about our company below, which are both informative and inspiring.

+150
EMPLOYEES
WORKING FOR GREIF-VELOX AROUND THE WORLD.

+3000
PROJECTS
COMPLETED TO DATE.

243,062
ARTICLES AND PARTS LISTS IN OUR ERP SYSTEM.

840,000
OARS PRODUCED ANNUALLY BY OUR GREIF-VELOX DRAGON BOATERS.

89
COUNTRIES SUPPLIED BY US TO DATE. A NUMBER THAT KEEPS GROWING.

92 %
OF OUR CUSTOMERS SOLELY REQUEST FUTURE PROJECTS WITH US.

60 KM
CABLE
PROCESSED ANNUALLY.

1,156,320
TONS
CAN BE BAGGED BY OUR PNEUMATIC PACKERS ANNUALLY. THIS IS EQUAL TO 2,753 A380 AIRPLANES.

AVAILABLE
24/7
WORLDWIDE.

WE ARE DIRECTLY REPRESENTED IN MORE THAN
15
COUNTRIES.

TOP-QUALITY & HIGH-PERFORMANCE

GLOBAL CONSULTANCY

Our solutions for filling liquids in the chemical, petrochemical, building materials and food sectors have been successfully used worldwide for many decades. At the same time, our experienced engineers have always taken into consideration all national regulations, specifications and requirements.

TO SUIT ALL YOUR REQUIREMENTS

VARIOUS CONTAINERS. VARIOUS SOLUTIONS.

We provide you with a wide range of options for filling different containers, such as canisters, drums and IBCs with liquids. Whether you need to fill small quantities or as much as 1,500 kg per operation – our systems operate safely and efficiently, and at a high performance level. Each solution provides different advantages tailored to your needs: with systems for filling single containers, high filling speeds will be achieved. Whereas, a pallet filling plant provides you with the maximum flexibility required for filling various types of container. We will be happy to advise you in this regard!

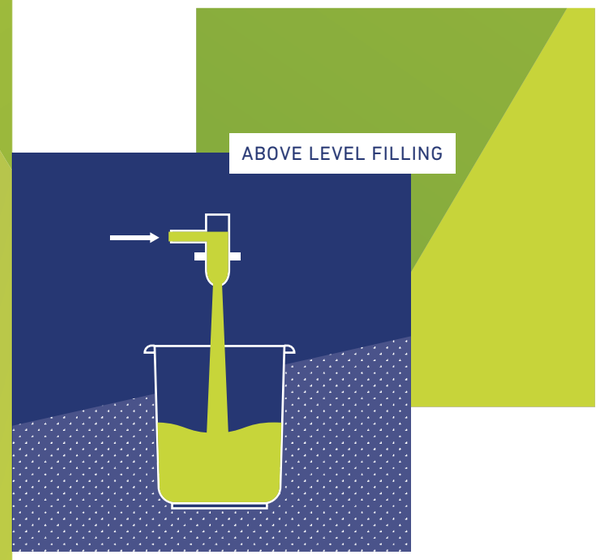
SPECIALISTS FOR SPECIAL SOLUTIONS!

We design and produce high-performance filling units, systems and plants that reliably meet all your individual needs, – and hence give you a real competitive edge which quickly pays off. We will also be happy to develop new innovations and patents for your projects, such as for handling sensitive fluids. Feel free to contact our engineers at any time! They look forward to advising you.

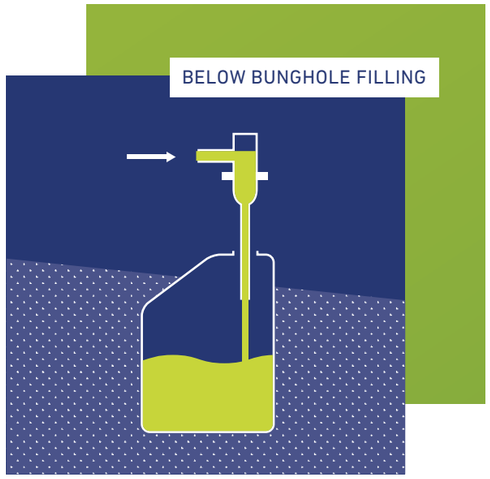
AN OVERVIEW

EFFICIENT FILLING PROCESSES

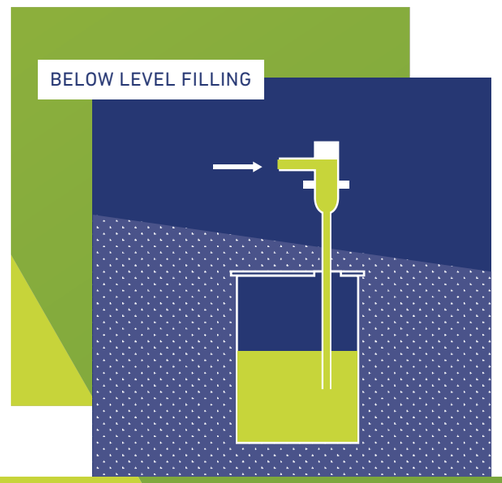
Not every container is suitable for every liquid. However, we have the appropriate filling unit, system or plant for every product and container.



- non-foaming products
- viscous products
- filling of drums with lid



- non-foaming products
- products of low viscosity
- filling of containers with bunghole



- foaming products
- products of low viscosity
- potentially explosive products
- filling of all kinds of containers

"EFFICIENT LIQUID FILLING OFFERS MANY COMBINABLE ADVANTAGES, AND THEIR ADDED VALUE CAN BE CALCULATED IN ADVANCE FOR YOU."

MATTHIAS WEGER, SALES ENGINEER

EFFICIENT PRODUCTION – MEASURABLE COMPETITIVE EDGE

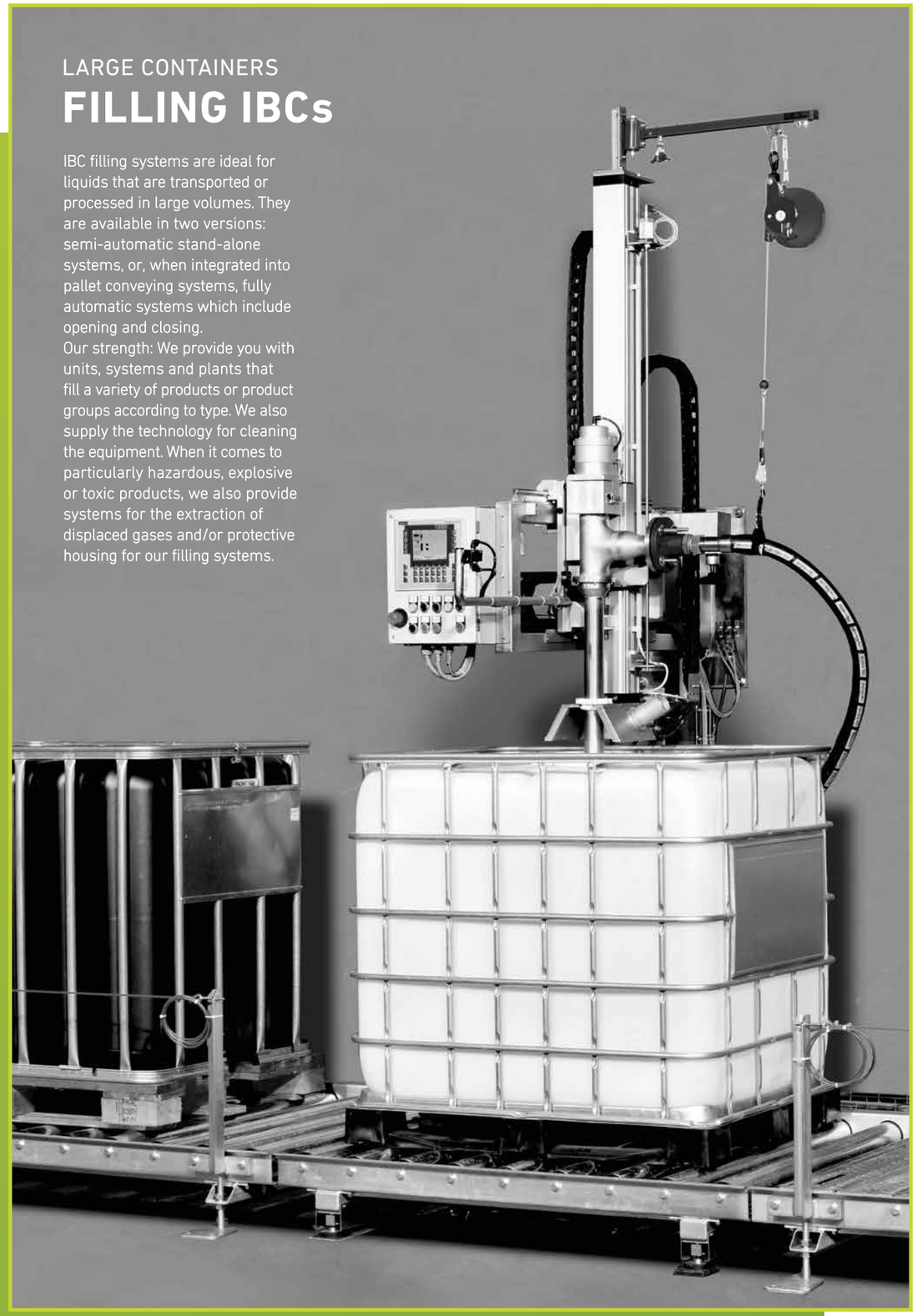
CUSTOMISATION COUNTS

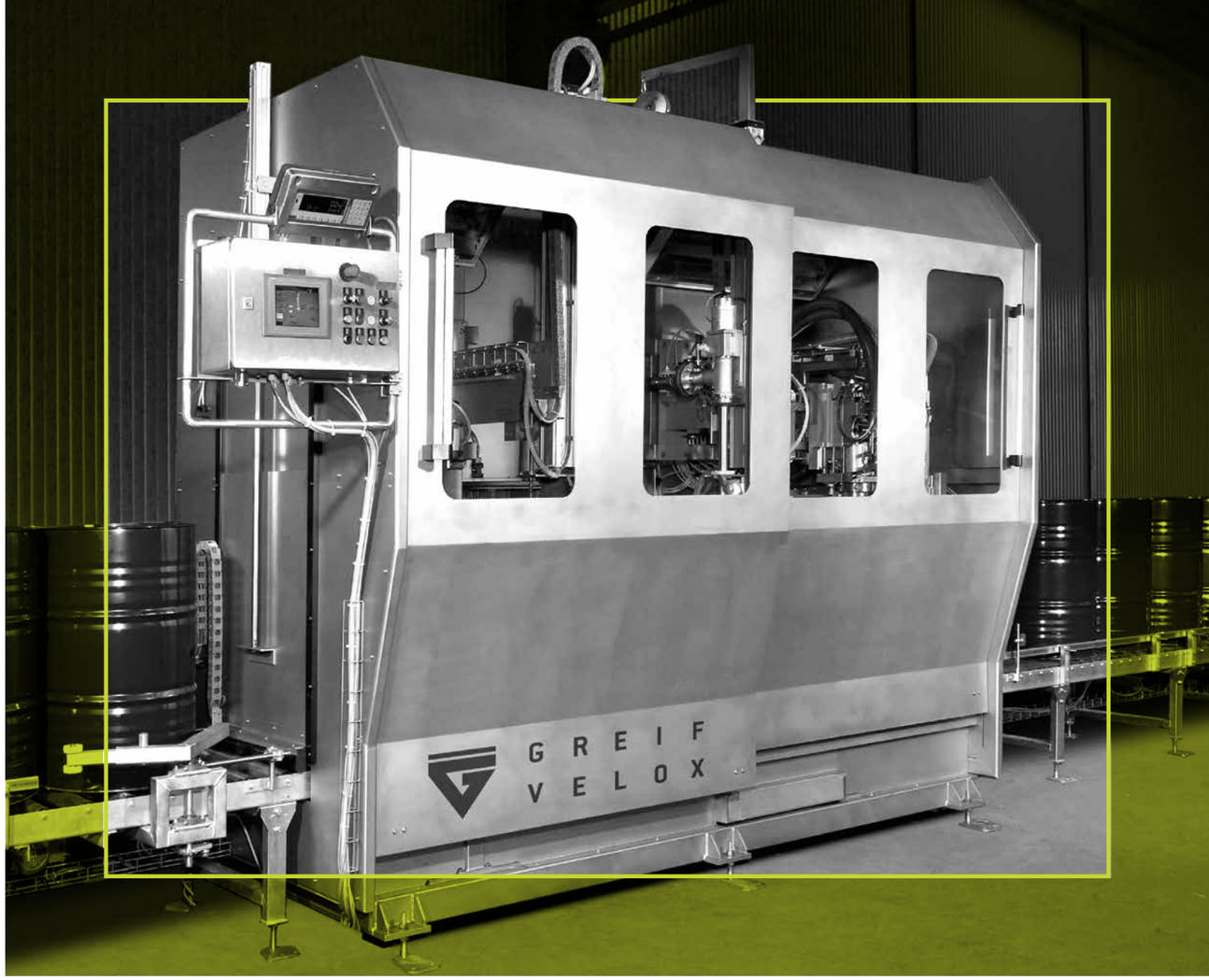
With standard solutions, you save money, but with customised solutions, you earn money. We bring together these two benefits when we design your project. Our team develops customised solutions precisely according to your specifications, which guarantee you measurable, sustainable added value in production. We combine these individual solutions with different standards within a plant system. In doing so, we optimise your production and increase your competitive edge.
To find the best combinations for specific requirements, our sales engineers work closely with our design and research and development teams. We are also happy to organise interactive workshops for our clients and potential partners. This direct way of exchanging know-how generates numerous new ideas that bring benefits over many decades.

LARGE CONTAINERS

FILLING IBCs

IBC filling systems are ideal for liquids that are transported or processed in large volumes. They are available in two versions: semi-automatic stand-alone systems, or, when integrated into pallet conveying systems, fully automatic systems which include opening and closing.
Our strength: We provide you with units, systems and plants that fill a variety of products or product groups according to type. We also supply the technology for cleaning the equipment. When it comes to particularly hazardous, explosive or toxic products, we also provide systems for the extraction of displaced gases and/or protective housing for our filling systems.





ROUND CONTAINERS

DRUM FILLING

We provide a whole range of systems for filling (bunghole) drums with your products. We can provide you with everything from simple semi-automatic filling systems to integrated and enclosed fully-automatic, high-performance systems. All this depends on the degree of automation and performance that you require, and the products and containers involved. Additional equipment for extraction and cleaning or to interact with your product feed is provided as standard.

We mean it when we say that we deliver from one source as your single point of contact: we will provide you with a complete full-line system, precisely customised to your application, including, for example, drum and pallet conveyor systems, palletising and labelling systems or cargo securing. Apart from drums, do you need to fill other containers such as IBCs or canisters? If so, you will find exactly the right system for your requirements in our range of pallet-filling systems.

PRECISION

CANISTER FILLING

Precision is essential when filling canisters with liquids. This is guaranteed by each of our systems. Regardless of whether you need an integrated and enclosed fully automatic system with several filling valves, locking systems and monitoring, or the simple semi-automatic version: you can be sure that your container will be filled precisely in accordance with the legal calibration requirements. We will provide you with a system that meets your requirements precisely, to suit your products and containers and to give you the performance and degree of automation you are looking for. Whatever the requirement, our solutions standardly include extraction and cleaning systems, as well as link-up equipment with your product feed.
And likewise for our canister filling systems: you get everything from a single point of contact. We will provide you with a full line, e.g. with canister magazine, canister and pallet conveyor systems, robotic palletising, as well as labelling systems or cargo securing.

FLEXIBILITY

PALLET FILLING EQUIPMENT

Do you have to put products into a wide variety of different containers such as drums, IBC or canisters? Then our pallet filling systems are exactly what you need. Your advantage: you save on palletising systems for full containers by moving empty containers on to pallets and filling them there.
Anything from highly flexible semi-automatic systems to fully automatic camera-based gantry filling systems – we select exactly the right equipment for you, based on your specific need (your product, containers and performance requirements). Thus you benefit from our experience from hundreds of projects implemented with a wide range of additional equipment. We will find the best solution for your particular task.
By incorporating pallet transport, palletising and labelling systems, or cargo securing, we can provide you with a one-stop full-line solution: from our company alone.

FULL-LINE

FULL-LINE SYSTEMS

THE BEST SOLUTIONS ALWAYS COME FROM A SINGLE SOURCE

No matter which filling solution you require, on request, we will deliver the entire full-line system ready for operation – including deployment technology for empty containers, marking systems, palletising solutions and cargo securing. You get everything from a single source and have only one point of contact for the entire system. Our engineers will be happy to develop customised solutions depending on your requirements and the space available at your plant.

THE CRUCIAL CHARACTERISTICS

FEATURES OF A MACHINE

■ EFFICIENCY ■ RELIABILITY ■ SUSTAINABILITY

GREIF – TANGIBLE SOLUTIONS:
REAL CUSTOMER STORIES

PATENTED EIGHT-FOLD SAFETY

A leading chemical company needs to handle various acids, including hydrofluoric acid, one of the world's deadliest substances. Contact with hydrofluoric acid initially goes unnoticed, because it first penetrates the skin and then enters the nervous system, where it causes major and painful damage, leading to death.
For such substances, safety is, of course, a top priority! Our engineers implement this eight fold, by developing an eight-stage safety system, including efficient and fully automated cleaning and decontamination of the closed unit. Using a patented drop-detection system, the unit autonomously identifies possible contaminants on or in the containers and, if necessary, sets various safety mechanisms in motion. Moreover, our technicians use various camera systems, automatic product change mechanisms, labelling techniques and innovative digital components (Industry 4.0), thus creating true benchmarks within the industry. And the result is surely a very satisfied customer!

FILLING SYSTEMS FOR CANISTERS

AREAS OF APPLICATION

Containers:
Canisters made of plastic or tinplate

Medium:
liquids with a viscosity ranging from water-like to viscous

Industries:
chemical, petrochemical, food, building materials

BENEFITS AND ADVANTAGES IN A NUTSHELL

OUR SOLUTIONS AT A GLANCE

S-DOS-K (1-2)

Semi-automatic and automatic filling systems for up to 300 canisters/h

METHOD OF OPERATION

- Manual or automatic canister feed-in
- Automatic filling with one to two filling valves
- Manual or automatic onward transportation
- Manual closure

BENEFITS

- Adaptation to customer requirements by using one or two filling units
- Canister transport technology supplied from a single source
- Suitable for a wide variety of product properties
- Maximum flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Stainless-steel model
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems

A-DOS- K (1-3)

Fully automatic filling systems for up to 400 canisters/h

METHOD OF OPERATION

- Automatic container separation
- Automatic canister transport
- Automatic filling with one to three filling valves
- Automatic closure of the canisters
- Different transport systems

BENEFITS

- Adaptation to customer requirements by using one, two or three filling units
- Automatic canister transport technology and automatic capping technology supplied from a single source
- Suitable for a wide variety of product properties
- Wide flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Additional canister opening systems supplied
- Equipment for palletising, labelling and cargo securing supplied

S-DOS-FS

Semi-automatic filling system for up to 50 drums (200 l)/h

METHOD OF OPERATION

- Manual feed-in and opening of drums
- Manual positioning of the bung hole
- Automatic inertisation/filling
- Manual onward transportation and manual closure

BENEFITS

- Drum transport technology supplied by a single source
- Suitable for a wide variety of product properties
- Maximum flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Equipment for palletising, labelling and cargo securing supplied

S-DOS-FS (1-3)

Automatic filling system for up to 100 drums (200 l)/h

METHOD OF OPERATION

- Manual opening
- Automatic feed-in of drums
- Automatic centring of the bung hole and automatic inertisation/filling at one to three stations
- Automatic onward transportation
- Manual closure
- S-DOS-FS1: centring, inertisation/filling at one station
- S-DOS-FS2: centring at 1st station, inertisation/filling at 2nd station
- S-DOS-FS3: centring at 1st station, inertisation/prefilling at 2nd station, completion of filling at 3rd station
- Output S-DOS-FS1: up to 55 drums (200 l)/h
- Output S-DOS-FS2: up to 65 drums (200 l)/h
- Output S-DOS-FS3: up to 100 drums (200 l)/h

BENEFITS

- Adaptation to customer requirements by using one, two or three work units
- Automatic drum transport technology supplied by a single source
- Suitable for a wide variety of product properties
- Wide flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- System technology supplied in enclosed housing
- Equipment for palletising, labelling and cargo securing supplied

FILLING SYSTEMS FOR DRUMS

AREAS OF APPLICATION

Containers: tight-head drums or drums with clamping ring lids made of sheet steel or plastic

Medium: liquids with a viscosity ranging from water-like to viscous

Industries: chemical, petrochemical, food, building materials

A-DOS-FS1

Fully automatic filling system for up to 35 drums (200 l)/h

METHOD OF OPERATION

- Automatic Feed-infeed-in of drums
- Automatic centring of the bung hole
- Opening, inertisation/filling, closure and clinching at one station
- Automatic onward transportation

BENEFITS

- Automatic drum transport technology and automatic opening and capping technology supplied from a single source
- Suitable for a wide variety of product properties
- Wide flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- System technology supplied in enenclosed housing

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Special materials for parts in contact with the product
- Input and output portals on the housing
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Equipment for palletising, labelling and cargo securing supplied
- Pressure capping tool with electronic torque control and monitoring supplied

FILLING SYSTEMS FOR DRUMS

AREAS OF APPLICATION

Containers: tight-head drums or drums with clamping ring lids made of sheet steel or plastic

Medium: liquids with a viscosity ranging from water-like to viscous

Industries: chemical, petrochemical, food, building materials

A-DOS-FS (4-6)

Fully automatic filling system for up to 120 drums (200l)/h

METHOD OF OPERATION

- All functions are performed at four or six stations, respectively
- Automatic feed-in of drums
- Automatic centring and opening of the bung hole
- Automatic inertisation/filling
- Automatic closure and clinching
- Automatic onward transportation
- Output A-DOS-FS4: up to 60 drums (200 l)/h
- Output A-DOS-FS4 HS: up to 95 drums (200 l)/h
- Output A-DOS-FS6: up to 120 drums (200 l)/h

BENEFITS

- Adaptation to customer requirements by using one, two or three filling units and a selection of system types based on the task
- Automatic drum transport technology and automatic opening and capping technology supplied from a single source
- Suitable for a wide variety of product properties
- Wide flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- System technology supplied in enclosed housing

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Special materials for parts in contact with the product
- Input and output portals on the housing
- Partitions with intermediate openings in the housing
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Equipment for palletising, labelling and cargo securing supplied
- Valve slide for holding up to three filling valves
- Combined filling of up to three varieties
- Pressure rotary capping tool with electronic torque control and monitoring supplied

FILLING SYSTEMS FOR IBCs

AREAS OF APPLICATION

Containers: IBCs made of stainless steel or plastic with a tubular steel frame

Medium: liquids with a viscosity ranging from water-like to viscous

Industries: chemical, petrochemical, food, building materials

S-DOS-C

Semi-automatic filling system for up to 15 IBCs (1000 l)/h

METHOD OF OPERATION

- Manual ejection of the IBC onto the scales or feed using pallet conveyor technology
- Manual positioning of the filling opening under the filling valve
- Manual opening
- Automatic inertisation/filling
- Manual closure
- Manual ejection of the IBC or removal with pallet conveyor technology

BENEFITS

- Suitable for a wide variety of product properties
- Maximum flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Pallet conveyor technology supplied from a single source
- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems

A-DOS-C (1-2)

Automatic filling system for up to 34 IBCs (1,000l)/h

METHOD OF OPERATION

- Automatic feed with pallet conveyor technology
- Automatic positioning of the filling opening under the filling valve
- Manual or automatic opening
- Automatic inertisation/filling
- Manual or automatic closure
- Automatic removal with pallet conveyor technology
- Output S-DOS-C (1): up to 18 IBCs (1000 l)/h
- Output S-DOS-C (2): up to 34 IBCs (1000 l)/h

BENEFITS

- Adaptation to the customer's requirements by using one or two filling units
- Pallet conveyor technology supplied from a single source
- Suitable for a wide variety of product properties
- Wide flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Automatic rotary capping tools with electronic torque control and monitoring supplied

FILLING SYSTEMS FOR PALLETS

AREAS OF APPLICATION

Containers: tight-head drums or drums with clamping ring lids, or canisters, several of which standing on pallets, and IBCs

Medium: liquids with a viscosity ranging from water-like to viscous

Industries: chemical, petrochemical, food, building materials

R-DOS

Semi-automatic radial filling system for up to 55 drums (200l)/h or 18 IBCs (1,000l/h)

METHOD OF OPERATION

- Feed-in of pallets or IBCs manually or using conveyor technology
- Manual opening of the container
- Manual positioning of the filling valve
- Automatic inertisation/filling
- Manual closure of the container

BENEFITS

- Suitable for a wide variety of product properties
- Maximum flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- No palletising of full containers required

OPTIONS

- Pallet conveyor technology supplied from a single source
- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Transportable system technology supplied
- Stainless-steel model
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Equipment for palletising empty containers, labelling and cargo securing supplied

K-DOS

Semi-automatic coordinated filling system for up to 60 drums (200l)/h or 18 IBCs (1,000l l)/h

METHOD OF OPERATION

- Feed-in of IBCs or pallets manually or using conveyor technology
- Manual opening of the container
- Semi-automatic positioning of the filling valve using the joystick
- Automatic inertisation/filling
- Manual closure of the container

BENEFITS

- Suitable for a wide variety of product properties
- Maximum flexibility of fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- No palletising of full containers required

OPTIONS

- Pallet conveyor technology supplied from a single source
- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or motorised valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Retrieval and running of stored placement patterns

- Teach-in mode
- Equipment for palletising empty containers, labelling and cargo securing supplied

FILLING SYSTEMS FOR PALLETS

AREAS OF APPLICATION

Containers: tight-head drums or drums with clamping ring lids, or canisters, several of which standing on pallets, and IBCs

Medium: liquids with a viscosity ranging from water-like to viscous

Industries: chemical, petrochemical, food, building materials

K-DOS-A

Automatic coordinate filling system with camera system for up to 60 drums (200l)/h or 18 IBCs (1,000 l)/h

METHOD OF OPERATION

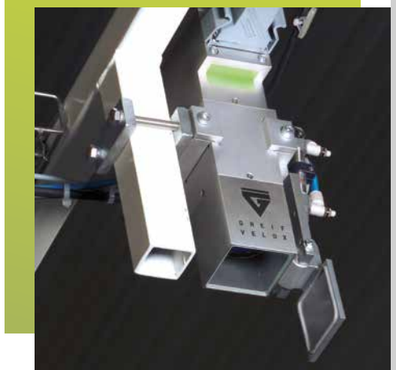
- Feed-in of IBCs or pallets manually or using conveyor technology
- Manual opening of the container
- Automatic positioning of the filling valve
- Automatic inertisation/filling
- Manual closure of the container

BENEFITS

- Suitable for a wide variety of product properties
- High degree of flexibility with fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- No palletising of full containers required

OPTIONS

- Pallet conveyor technology supplied from a single source
- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Pneumatic capping tools supplied
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Stainless-steel model
- Equipment for palletising empty containers, labelling and cargo securing supplied



A-DOS-P1

Fully automatic gantry filling system with camera system for up to 40 drums/h or 15 IBCs (1,000l)/h

METHOD OF OPERATION

- All process functions are performed at one station with up to four process functions performed, e.g.: bung-hole detection, opening/closing screwed connection for various types of closures, inertisation/ filling via various filling processes

BENEFITS

- Automatic pallet conveyor technology and automatic opening and capping technology supplied from a single source
- Suitable for a wide variety of product properties
- High degree of flexibility with fillable container types
- Option of handling foaming products
- Option of filling in a potentially explosive area, zone 1
- Adaptation to local conditions
- No palletising of full containers required

OPTIONS

- Additional safety devices used such as inertisation, overfill switch-off or collection trays
- High level of automation of the system technology using a modular system, e.g. by means of a controlled upward movement of the valve or automatic valve base height adjustment
- Parts that come into contact with the product can be easily cleaned and special cleaning equipment is supplied
- Stainless-steel model
- Special materials for parts in contact with the product
- Interaction with the customer's product feed
- Integration in the customer's control systems
- Pressure rotary capping tool with electronic torque control and monitoring supplied
- Equipment for palletising empty containers, labelling and cargo securing supplied
- System technology supplied in enclosed housing

VELOPACK

HIGH-PERFORMANCE ROBOTIC PALLETISING

Our worldwide tried and tested robotic palletiser transports and sorts the containers fully automatically, thus saving your staff a job . Of course, our robots provide all the benefits this technology has to offer, including very low maintenance requirements and costs, as well as maximum flexibility.

VELOPACK AT A GLANCE

- For palletising or depalletising drums, hobbocks and canisters
- 4-axis and 6-axis design
- load capacity of 100 kg to 400 kg
- servicing several lines at the same time
- optional gripping tool for additional handling of pallet and wrapping

TRANSPORT AIDS

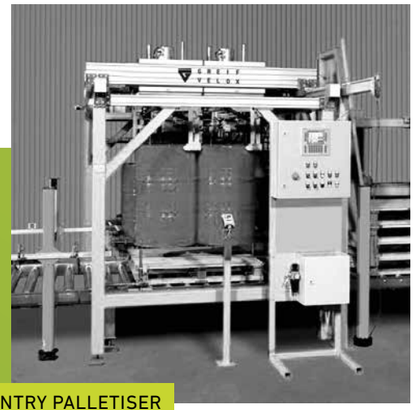
TRANSPORTED SAFELY. SAFE IN TRANSIT.

We offer efficient mechanisms for transport and cargo securing, as an individual solution or as part of a full-line system. We will be happy to customise these according to your requirements.

PALLETISING AIDS

- for palletising drums, hobbocks and canisters
- vacuum lifter or balancer system
- with vertical column or wall-mounted swivel crane

GANTRY PALLETISER



- for automatic palletising of drums, hobbocks and canisters
- combinable with all elements of conveyer technology
- designed as: palletiser with gripper tool, vacuum palletiser or sliding palletiser

AUTOMATIC STRETCH WRAPPING STATION

- stretch film wrapping
- stretch hooding
- shrink hooding
- vertical strapping
- horizontal strapping

MECHANICS + ELECTRONICS = EFFICIENT SERVICE

Our technicians are experts in two respects because they are familiar with providing support for both mechanical and electronic systems. In this way, our team can fully support you on site. Our professionals see the broader picture ... and approach problems holistically. You will notice the difference. This not only makes our service more efficient, but your systems too.

"SERVICE DETERMINES WHETHER A CUSTOMER BECOMES A REGULAR CUSTOMER. THIS IS WHY EACH SUPPORT REQUEST IS OF PERSONAL CONCERN TO US!"

CARSTEN DIETRICH,
DIRECTOR OF CUSTOMER SERVICE

OUR SERVICE = QUALITY SERVICE

Our service team proves itself a reliable and efficient partner providing hands-on support already during plant installation and commissioning. Rediscover what service is all about in an ocean of service possibilities. We are delighted to offer you the optimum services that fit your requirements and will gladly develop tailored solutions as well. We ensure that your users learn to operate the machine quickly and efficiently, and we guarantee a high level of machine availability.

- helpdesk: direct contact person, immediate support
- special remote assistance team
- 95% of all incidents can be resolved via teleservice and video communication
- modem, Ethernet and VPN support for remote troubleshooting
- mobilisation of technical personnel within 12 hours
- general assistance with questions about operation or maintenance
- average response time after receiving your message < 60 minutes

RALPH ARNDT, SALES ENGINEER
SPARE PARTS & RETROFIT

BREAKING NEWS: OUR WIKI

FINDING THE RIGHT PARTNER

Good service lies at the base of every good business relationship, just as with every system that we deliver to you we also make a promise to provide you with solutions that function reliably and are efficiently from day one!
The service component is after all a decisive criterion when purchasing a machine. In this brochure, our colleague Henrik Johns explains in our wiki "GREIF: tangible solutions" what you should be aware of when buying machinery and equipment.
In our service brochure, on the other hand, we explain what we mean by good service and give you hints on what to be looking out for.
If you are interested but unable to visit us at the fair, you can also find the brochure online on our website under the NEWS section.

INTERNET OF THINGS/ INDUSTRY 4.0

BRIEFLY SUMMARIZED: THE WHAT AND WHY

Digitalisation has now arrived in every part of our lives and, quite honestly, our lives are easier and enriched as a result! In the industrial sector, the digital revolution is also galvanising progress and enhancing overall production and efficiency. In future, "Industry 4.0" will decide how competitive companies are. Only if you are at least as good as your international colleagues at networking, tracking and optimising your production processes, will you be able to make the best offers with the best margins.
The great thing is that the advantages of digitalisation are usually easy to calculate and you can quickly determine the direct and indirect added value benefits, and whether an investment is worthwhile.
We will be pleased to give you advice and expert support during our vibrant "GREIF: tangible solutions" workshops.

GREIF – TANGIBLE SOLUTIONS:
REAL CUSTOMER STORIES

SUSTAINED ENERGY BOOST

**ANDREAS FRANKRONE,
SALES ENGINEER**

The contract bottler, VLS, who works for large chemical companies such as BASF, Dow and Bayer, is an absolute expert in its field. No wonder that our engineers are looking forward to the job. The briefing promises an exciting task: What is needed is a system that fills PE or steel drums of 200 to 250 litres both potentially explosive and non-explosive areas, with an efficient empty drum feeder as well as full drum conveyor technology. So far, this is just a warm-up exercise for our developers. The real challenge lies in the performance: The product changeover, which until now has taken 45 minutes, is to be shortened as much as possible. In addition, it should be possible to mix up to three products fully automatically in a single drum. Our developers love challenges! Thus it is clear right from the start: "Shorten as much as possible" is not enough for us; our aim is to dramatically reduce the product changeover time. After a few workshops with our research and development team and several energy drinks later, we have the solution: a customised A-DOS-FS4 with three efficient filling lances. The result: 10 minutes instead of 45 product changeover time, fully automatic control of the product feed via filling lances, customised mixing ratio of three products with simple operation, a satisfied customer – and a new pallet of energy drinks for our R & D team.

With best wishes,

ANDREAS FRANKRONE

MATTHIAS WEGER,
SALES ENGINEER

BENJAMIN JOHN,
DIRECTOR
OF ENGINEERING

ANDREAS FRANKRONE,
SALES ENGINEER

RALF DREWS,
CHAIRMAN OF THE
BOARD & CEO

RALPH ARNDT,
SALES ENGINEER
SPARE PARTS AND RETROFIT

BRIGHT
PROSPECTS

THIS COULD BE YOUR TEAM

CARSTEN DIETRICH,
DIRECTOR OF CUSTOMER SERVICE

KAI LAUGSCH,
HEAD OF ELECTRICAL
OPERATIONS

MARTIN BRÜNING,
MECHANICAL ENGINEERING

DR. ALEXANDER
MILDNER,
DIRECTOR OF
RESEARCH AND
DEVELOPMENT

GREIF– TANGIBLE SOLUTIONS!

Our Sales Engineer Henrik Johns gives real insider tips that you should keep in mind when buying a machine – regardless of what you buy and where you buy it.

HENRIK JOHNS,
SALES ENGINEER

DEAR READERS AND PERHAPS EVEN POTENTIAL CUSTOMERS,
The time has come, a machine purchase is just around the corner. This may not be your first purchase but, unless you have already ordered and installed the same system numerous times, it is always a tricky task, for which I would like to share with you some valuable tips based on my 25 years of experience.

YOUR BRIEFING FOR POTENTIAL PARTNERS
Before purchasing a machine, it is worth roughly planning "the journey" – a metaphor we like to use here at Greif-VELOX. We recommend using the following three phases:

- **The Horizon phase:** First, roughly define the target that you have in mind – what kind of system do you need and what functions should it fulfil?
- **The Cloud phase:** Let your imagination run wild and freely outline what you would like your system to be able to do if there weren't any limitations or rules. This phase plays an important role in partner selection.
- **The Down to Earth phase:** Back in the realm of reality, you first need to define a potential budget framework and a time schedule. You can also subdivide these two criteria into any number of subheadings in order to check out different limits and scenarios.

These should have given you a rough briefing with which to inspire engineers and designers. In the next phase, you will need to select these partners and work together with them to create a realistic budget.

PARTNER SELECTION
If you already have good experience with existing partners and are satisfied with the price-performance ratio, you obviously have a clear favourite! Of course, you can always find cheaper options in today's globalized economy, but they are also likely to be worse. Production losses due to delayed deliveries and machine defects usually cost far more money than initial savings and in any case are a considerable source of stress and take up your precious time. If you involve other providers, even though your standard supplier is still a clear favourite, be fair and open. Share all the information and allow new impulses, visions and potential.
If you leave your standard supplier or need a new partner for whatever reason, it is frequently not the price that plays a part in such investments – as long as this is reasonably comparable – but rather your gut feeling. reinforced by references, customer recommendations and case histories. It is also important that you are confident that your partner has honest intentions. Consider the following:

- Does the seller just want to sell you something or does he really want to find the best solution for you?
- Do you know the team behind the seller, with whom you will have to work later?
- Do you have a good relationship with the project manager and trust the senior designers?

You can get a first crucial impression from team charts in company presentations. How your partners react to the briefing components from your "cloud phase" is especially important. If your partners or essential team members present problems and not solutions, then beware! Even the best engineers cannot solve every challenge, but they can be inspired to find alternatives. Partners work with you on how to make the impossible possible through creative ideas. Non-partners only emphasise why things will not work. Such people are inflexible later on in the project and likely to miss important market trends. However, priorities must be set to develop a realistic budget. And even if everything is technically possible, budgeting may not allow for creativity and passion. A realistic figure for all involved is literally "worth its weight in gold".
A further tip for major projects is that it helps to stage workshops with potential partners to deal with challenging requirements. You could charge for such workshops if as yet no contract has been signed and key personnel need to attend. It is worth it in the end, as you will get to know the team and how it works:

- How well prepared are the participants?
- How is the workshop conducted?
- How do they work together?
- Is the chemistry in the team right?
- Are skill synergies being used?

And, above all:

- Will you and your needs be addressed?
- Does the team really listen to you?

Such workshops are performance-oriented "chemistry meetings", which should always result in tangible ideas.

THE ACQUISITION

Once the budget has been approved, it is time to negotiate prices and clarify technical details. Bear in mind all contingencies, and especially the post-delivery requirements. Many equipment acquisitions involve a partnership that can extend over a period of 15-20 years. This is why even as a non-purchaser you personally participate in the purchasing negotiations, since, as we have already seen, bargains may cost you time, money and stress. If the prices are within your budget and the discrepancy is not too great, a reliable, efficient partner with sustainable solutions justifies an appropriately higher price.
You are not only purchasing a machine but also acquiring a long-term partnership with many hours of intensive contact and collaborative work.
If you would like to gain further insight, for instance, into what you should be aware of regarding services and how order processing works, you will find further insider reports from my colleagues on our website's Blog section, "GREIF: tangible solutions!".
If you have any further questions, please do not hesitate to contact us. My colleagues and I look forward to hearing from you and assisting you with any challenges and upcoming projects.

Kind regards,

HENRIK JOHNS

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EDITOR
GREIF-VELOX
MASCHINENFABRIK
GMBH
KRONSFORDER
LANDSTRASSE 177
23560 LÜBECK
GERMANY

CEO
RALF DREWS

HEAD OF MARKETING
NICO IMÉR

DESIGN
ANNA PRIMAVERA

GREIF VELOX

GREIF-VELOX MASCHINENFABRIK GMBH
KRONSFORDER LANDSTRASSE 177
23560 LÜBECK I GERMANY

PHONE +49 (0) 451 5303-0
FAX +49 (0) 451 5303-233
INFO@GREIF-VELOX.COM
WWW.GREIF-VELOX.COM